

VERTEBRATE FAUNA OF THE EASTERN GROUP, ARCHIPELAGO OF THE RECHERCHE, WESTERN AUSTRALIA

By L.A. SMITH, R.E. JOHNSTONE and J. DELL
Western Australian Museum, 49 Kew Street, Welshpool, WA 6986

ABSTRACT

The Eastern Group of the Archipelago of the Recherche consists of ten named islands, three named rocks and numerous unnamed islets and rocks. It is the most easterly group of islands in the Archipelago and the least known scientifically because of its remoteness. Brief visits by earlier naturalists and more intensive visits by us in the 1980's and 1990's have recorded a combined total of 45 species of birds, 4 mammals and 10 reptiles from seven of the ten islands (Anvil, Daw, Ford, New Year, Pointer, Six Mile and Spindle Islands). Three islands (Rodondo, Whaleback and Cranny Islands) have not been visited by naturalists. Data on each species are presented.

INTRODUCTION

The islands of the Archipelago of the Recherche off the southern Western Australian coast stretch for over 230 kilometres from about longitude 121°30' (just west of Esperance) east to longitude 124°10' and up to 60 km offshore in the west (Termination Island in 34°28'S, 121°59'E) and 30 km offshore in the east (Daw Island in 33°51'S, 124°04'E). There are about 105 islands and 1500 islets in the Archipelago, the largest and best vegetated being Middle Island (1080 ha, 235 species of plants), but many are small and poorly vegetated and many islets have no known plant species

being no more than exposed rocks. Most of the Archipelago was classified as an A class reserve in April 1980.

European discovery of the archipelago commenced in 1627 when Nuijts sailed through seas to the south of the archipelago. The next visit was by Vancouver in 1791 who proposed the first name for one of the islands, the southernmost, Termination Island. However the Archipelago remained relatively unexplored, certainly, by naturalists, until the visit by Flinders in 1802. Smith and Johnstone (1996) outlined the history of subsequent explorations in the Archipelago by naturalists.

The Eastern Group of the Archipelago of the Recherche consists of ten named islands, three named rocks (Figure 1) and numerous unnamed islets and rocks. It is the most easterly group of islands in the Archipelago and the least known scientifically because of its remoteness. The nearest islands in an easterly direction are in the Nuyts Archipelago off Ceduna, South Australia, 1000 km to the ENE making the islands of the Eastern Group of the Archipelago the easternmost seabird-breeding islands off the south coast of Western Australia.

Since 1947 various islands of the Eastern Group have been visited by a number of naturalists including D.L. Serventy in 1947 and 1948, V.N. Serventy and J.R. Willis in 1950 (see Serventy 1952, 1953; Willis 1953). Since then personnel from the Department of Fisheries and Wildlife and, more recently, from the Department of Conservation and Land Management have visited parts of the Eastern Group, but few data have been published from these visits.

In the mid 1980's the Western Australian Museum began accumulating data on the Eucla Division of Western Australia in preparation for a publication on the birds of that area (Storr 1987). Part of that program was to visit as many islands as possible, particularly small islands which are often important for seabirds. For example Six Mile Island is only 10 ha in area, has only five

species of plant but is a breeding site for six species of seabird (Johnstone and Smith 1987).

METHODS

Two of the current authors made the following visits to the Eastern Group in the 1980's: Johnstone visited Six Mile Island in January 1985; Smith and Johnstone visited Six Mile Island on 30 October 1985 and 23 February 1986, Daw and New Year Islands on 19 February 1986 and Anvil Island on 23 February and 17 April 1986. They also made observations from the sea at Ford Island on 19 February 1986 and on Pointer Island on 17 April 1986.

In May 1991 the Australian Geographical Society organized a major expedition to the Archipelago including islands in the eastern Group that had not previously been visited by naturalists. Dell and herpetologist Brad Maryan were members of this expedition. They were accompanied by botanist Greg Keighery who described the vegetation and listed the floristics of each island visited (Keighery 1995). Dell and Maryan visited Daw and New Year Islands on 5-7 May 1991 and Spindle, Anvil and Six Mile Island on 7 May 1991.

The following annotated lists of the terrestrial vertebrates of the Eastern Group includes previously published data, Western Australian Museum records (mammals and reptiles)

and data collated during our visits.

DESCRIPTION OF ISLANDS

Anvil Island (33°44'S, 124°05'E, area 25 ha, 20 m high). Two low granite hills are separated by a vegetated valley with a beach on each side. The three low heath and herbfield vegetation associations were described by Keighery (1995) who listed 27 plant species recorded for the island.

Daw Island (33°51'S, 124°04'E, 2.7 km long, 180 ha, 141 m high) has a granite base with a low limestone saddle at the central isthmus which narrows to about 100 m.

Exposed granite on the east side and each end slopes steeply into the sea. The western side has a sandy beach backed by *Spinifex hirsutus* and *Nitraria billardierei* and, towards the southern end, there is a low limestone cliff. Protected lowlands are covered with low, dense scrub dominated by *Paraserianthes lophantha* and *Atriplex* which is tallest (up to 2 m) and densest at the base of the northern peak. More exposed areas are carpeted with *Carpobrotus* and *Sporobolus virginicus*. Willis (1954) recorded 46 species of plant for the island (but not *Melaleuca lanceolata*). We also made a small plant collection which included a

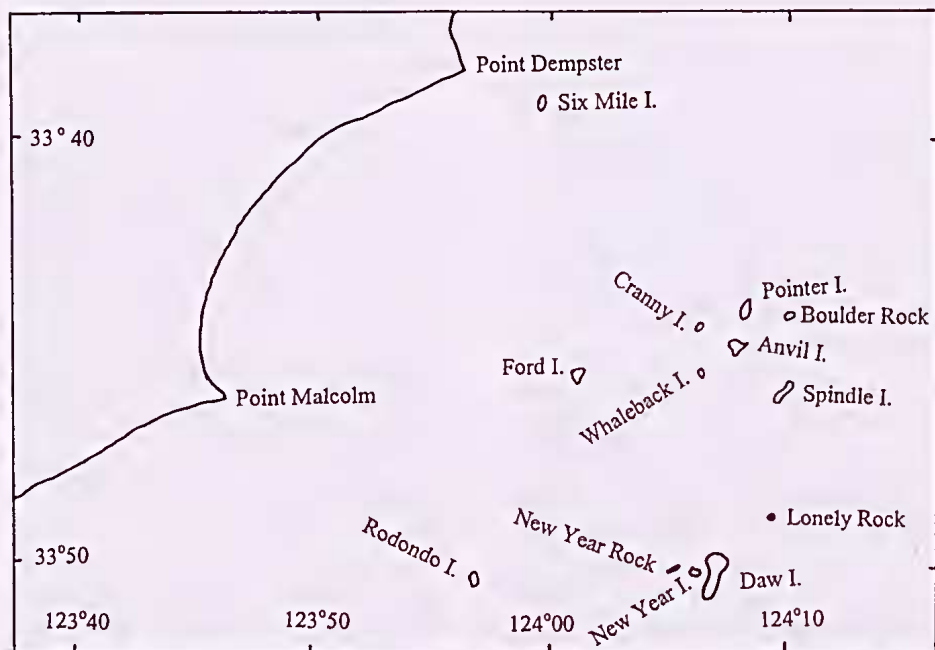


Figure 1. Positions and names of Islands in the Eastern Group, Archipelago of the Recherche.

specimen of *Melaleuca lanceolata* taken from a small, tall, dense stand in the middle of the island. We also found a freshwater seepage at the foot of the northern (tallest) peak. Fairbridge and Serventy (1954, p. 14) show a photograph of the island.

Ford Island (33°46'S, 124°02'E, area 15 ha, 0.6 km long, 27 m high). Smith and Johnstone passed within 200 m of this island en route to Daw Island in February. It is similar to Pointer Island but domed, has extensive areas of bare granite, and little vegetation (mostly *Carpobrotus*). From that distance the soil build-up on Pointer and Ford Islands did not appear deep enough to support breeding colonies of burrowing petrels.

New Year Island (33°51'S, 124°07'E, area 12 ha, 0.7 km long, 32 m high). About two thirds is mostly exposed granite and the tallest vegetation is less than 50 cm tall. Keighery (1995) described the three main vegetation types and listed 23 plant species recorded. There is a small area of limestone on the southeast end (opposite Daw Island) that provides the only topsoil deep enough for burrowing seabirds. It is also the tallest vegetated area with thickets of *Nitraria billardiarei* over *Threlkedia diffusa* (Keighery 1995).

Pointer Island (33°43'S, 124°05'E, area 20 ha, 1 km long, 29 m high). Smith and Johnstone made an unsuccessful attempt to land on this island which is mostly bare granite. It has very steep sides

and is topped with a sloping plateau. The vegetation appears to be almost exclusively *Carpobrotus virescens*.

Six Mile Island (33°38'S, 123°59'E) is a granite rock with five plant species (Keighery 1995). Incorrectly called Six Mile Rock by Keighery (1995).

Spindle Island (33°46'S, 124°10'E) is mostly bare granite and has only four plant species (Keighery 1995).

Other islands in the Eastern Group (Rodondo (incorrectly called Rodona on some maps), Whaleback and Cranny Islands) apparently have not been visited by naturalists.

RESULTS

BIRDS

Pacific Black Duck *Anas superciliosa*

Six Mile Island – ten in January 1985. Mr L. Spurr of Israelite Bay informed R.E. Johnstone in 1985 that Black Ducks visit other islands in the Eastern Group.

Grey Teal *Anas gracilis*

Six Mile Island – eleven in May 1991.

Cape Barren Goose *Cereopsis novaehollandiae grisea*

Anvil Island – nine in February 1986, five in April 1986, and nine live and four dead in May 1991.

Daw Island – fifteen on *Carpobrotus*-covered slopes in February 1986, six live and ten dead birds in May 1991. Serventy

(1952) counted 12 in November.

New Year Island – one live and four dead in May 1991.

Six Mile Island - five in May 1991.

The large number of dead birds on these, as well as other islands examined in May 1991 was probably the result of starvation due to the prolonged drought which had markedly affected the vegetation of many islands at the time. In some places whole plant associations were dead and others were markedly stressed and close to death. Vegetative growth would have been severely reduced for several months and may have resulted in starvation in many geese. About 40% of geese recorded throughout the archipelago in May were dead birds.

Little Penguin *Eudyptula minor novaehollandiae*

Anvil Island – two feathered chicks under *Nitraria billardierei* in February 1986, about 12 burrows under *Nitraria*, several empty burrows under *Disphyma clavellatum* in May 1991.

Six Mile Island – nesting all over the island on 25 January 1985 but most nests at the southern end where the granite is more jumbled. All nests examined contained adults or chicks. Chicks ranged from half grown downy young to fully feathered young. Young often sitting in crevices together (groups up to eight). Thirty-three young counted. Forty-five adults under slabs of granite in October 1985. There were 22 empty nests, one

nest with two eggs, one nest with a dead chick and a chipped egg, one nest with two almost fully fledged young, and one nest with two newly hatched black chicks with white bellies. None recorded in February 1986. Two adults under rock in May 1991.

Daw Island - there were 300-500 burrows scattered among the Fleshy-footed Shearwater burrows in February 1986. Two moulting adults were under granite slabs among *Paraserianthes lophantha* and *Carpobrotus* and a downy chick was in one nest. At least 30 burrows under low shrubs were occupied by adults in May 1991. Recorded from *Daw I.* in Serventy and Whittell (1951).

New Year Island – we found a few feathers at the mouth of a deep burrow in February.

Yellow-nosed Albatross *Diomedea chlororhynchos*

One at sea between *Anvil I.* and *Point Dempster* in April 1986, one at sea between *Daw* and *Spindle Is.*, one between *Spindle* and *Anvil Is.*, and one between *Six Mile I.* and *Point Malcolm* in May 1991. More abundant in seas to west of *Point Malcolm* in May and in June and July (Serventy 1952).

Black-browed Albatross *Diomedea melanophris*

One at sea between *Daw* and *Spindle Is.*, one between *Spindle* and *Anvil Is.*, and two between *Six Mile Island* and *Point Malcolm* in May 1991. More

abundant in seas to west of Point Malcolm in May 1991.

Shy Albatross *Diomedea cauta*
D.L. Serventy saw one off Daw I. in July 1947 (Serventy 1952).

Cape Petrel *Daption capense*
One dead on Six Mile Island in January 1985. Two over seas between Six Mile Island and Cape Pasley in May.

Great-winged Petrel *Pterodroma macroptera*
Several near Daw I. in February 1986.

Fleshy-footed Shearwater *Puffinis carneipes*
Anvil Island – a few empty burrows when a skeleton was collected in May 1991.

Daw Island – Serventy (1952) recorded only a few burrows in November 1950 but in February 1986 we estimated that there were 5,000-10,000 breeding pairs present mainly in sandy areas. All 12 burrows examined contained an adult brooding a chick. In May two colonies of hundreds of burrows were located. About 10% of the first burrows had a large chick with some down on lower abdomen and head and fresh adult tracks after rain. The second colony had abandoned burrows. About 12 adults were seen leaving the island at 0600 hrs on 6 May 1991.

This species begins renovating burrows from the end of September to the beginning of November and egg laying begins in late November to mid

December. We doubt that Serventy would have overlooked such a large colony so it would appear that the species has greatly increased since the 1950's.

Little Shearwater *Puffinis assimilis*

Anvil Island – we found 700-800 of their burrows, mostly under *Carpobrotus* and *Atriplex* on the eastern side of the island in February 1986. Six burrows excavated were empty but one adult was heard calling from a burrow. On our return in April 1986 many of the burrows were freshly excavated but unoccupied. A few burrows were freshly excavated in May 1991 and a skeleton was collected.

Daw Island – two skulls were collected in the *Melaleuca lanceolata* thicket in February 1986.

New Year Island – a few *P. assimilis*-sized burrows in shallow soil on limestone in February 1986.

White-faced Storm Petrel *Oceanites marinus*

Anvil Island – we found 200-300 burrows in groups of 30-100 in February 1986. One of the five burrows examined contained a feathered juvenile with down on its neck and around the vent.

Daw Island – Serventy (1952) reported many burrows in November 1950 but we found no sign of their burrows in February 1986 or May 1991, although we did not search the whole island.

New Year Island – five empty burrows in May 1991 were probably this species.

Australasian Gannet *Sula serrator*

Four adults were seen between Point Dempster and Daw I. in February 1986 and 19 adults and two immatures between Point Dempster and Anvil I. in April 1986. Seventeen adults and one immature were seen en route to Anvil I. in April 1986 and 14 adults and 2 immatures were seen on our return from Anvil I. to Point Dempster the same day. One was seen near Anvil I. and four near Six Mile I. in May 1991. Much more abundant in seas to west in May 1991.

Black-faced Cormorant *Phalacrocorax fuscescens*

Six Mile Island – twenty on small rock at eastern end of island in October 1985. One seen en route from Israelite Bay to Anvil I. in April 1986.

White-faced Heron *Ardea novaehollandiae*

Daw Island – D.L. Serventy saw one in a pool on granite in July 1947 (Serventy 1952).

Eastern Reef Heron *Ardea sacra*
Spindle Island – one in May 1991.

White-breasted Sea Eagle *Haliaeetus leucogaster*

Anvil Island – two adults and a brownish juvenile at a nest in February 1986.

Daw Island – two pairs in May 1991. Feeding platforms con-

tained skeletons of three leather jacket fish. V.N. Serventy (Serventy 1952) found an old nest on the northern peak. Another nest half way up the peak contained a large young bird.

Pointer Island – one adult in February 1986.

Six Mile Island – previously known to nest (L. Spurr pers. comm.).

Australian Kestrel *Falco cenchroides*

Daw Island – one in February and two in May 1991. V.N. Serventy saw one in November 1950 (Serventy 1952).

Buff-banded Rail *Gallirallus phillippensis*

Anvil Island – one in *Nitraria billardierei* thicket and a dead bird nearby in May 1991. An orange-legged rail about 25 cm tall at the edge of a *Nitraria* thicket in February (L. Spurr pers. comm.) was probably this species.

Daw Island – two in a 2m tall *Paraserianthes lophantha* thicket at the base of the granite hill at the eastern end of the island in February 1986. V.N. Serventy (Serventy (1952) recorded one in November 1950.

Spotless Crake *Porzana tabuensis*
Anvil Island – one in *Nitraria billardierei* thicket in May 1991.

Daw Island – three (one of them collected) in February 1986, three in *Paraserianthes lophantha* thickets in May 1991.

Brown Quail *Coturnix ypsilophora*

Daw Island – birds attributed to this species were seen by V.N. Serventy (Serventy 1952).

Grey-tailed Tattler *Tringa brevipes*

Six Mile Island – one with Ruddy Turnstones in February 1986.

Ruddy Turnstone *Arenaria interpres*

Six Mile Island – one in October 1985, 35 in February 1986 and four in May 1991.

Spindle Island – fifteen in May 1991.

Common Sandpiper *Tringa hypoleucos*

Six Mile Island – two in January 1985.

Little Stint *Calidris minuta*

Six Mile Island – 12 with Grey-tailed Tattler and Ruddy Turnstones in February 1986.

Sooty Oystercatcher *Haematopus fuliginosus*

Anvil Island – two in February 1986 and April 1986, three on rocks in May 1991.

Daw Island – six in February and six in May. V.N. Serventy saw two in November 1950 (Serventy 1952).

New Year Island – two in May 1991.

Six Mile Island – seven in January 1985, thirteen in October 1985, seven in February 1986, eight in May 1991. All were at the splash zone on granite.

Spindle Island – two in May 1991.

Grey Plover *Pluvialis squatarola*
Anvil Island – three in May 1991.

Rcd-necked Stint *Calidris rufficollis*

Anvil Island – five in May 1991.

Six Mile Island – one in January 1985, one in October 1985 and 30 in May 1991. A specimen collected on 23 February 1986 (CSIRO band 032-49361) was banded at Pelican Point, Swan River, Perth on 15 December 1984 by the Western Australian Wader Study Group.

Red-capped Plover *Charadrius ruficapillus*

Anvil Island – one in February 1986, 15 on rocks in May 1991.

New Year Island – one in May 1991.

Six Mile Island – four in May 1991.

Greater Sand Plover *Charadrius leschenaultii*

Six Mile Island – eight in October 1985.

Hooded Plover *Charadrius rubricollis*

Six Mile Island – two in January 1985, one collected in February 1986.

Brown Skua *Catharacta antarctica lonnbergi*

Six Mile Island – three over seas close to island in May 1991.

Arctic Skua *Stercorarius parasiticus*

Daw Island – D.L. Serventy saw one off island on 16 July 1947 (Serventy 1952).

Six Mile Island – three over seas close to island and three further out in May 1991.

Silver Gull *Larus novaehollandiae*

Anvil Island – nineteen in February 1986, six in May 1991.

Daw Island – 15 recorded in February 1986 including 3 immature birds, a total of 14 in May 1991. One in November 1950 (Serventy 1952).

New Year Island – one in May 1991.

Six Mile Island – about 50 adults on island in October 1985. There were two separate breeding groups among low vegetation between jointing planes in granite. The colony near the centre of the island had four nests comprising one with 3 eggs, two with 2 eggs, and one with a downy chick. There were also eight dead chicks and 13 runner chicks with buff edges to feathers and down on head. Ten adults in May 1991.

Spindle Island - six in May 1991.

Pacific Gull *Larus pacificus*

Anvil Island – an immature in February and three in May 1991

Daw Island – four adults and five immature birds in February 1986, a total of 32 seen in May 1991. V.N. Serventy found two nests on Daw I, one with two eggs (chicks heard cheeping) and the other with one egg (Serventy 1952).

New Year Island – one in May 1991.

Six Mile Island – two adults in October and two adults in February 1986.

Spindle Island – three in May 1991.

Caspian Tern *Sterna caspia*

Anvil Island – two in February 1986.

Daw Island – one seen in November 1950 (Serventy 1952).

Six Mile Island – Five in January 1985, two pairs each with 2 eggs in October 1985. Nests were in small depressions in granite.

Crested Tern *Sterna bergii*

Anvil Island – one in February 1986 and two in May 1991.

Daw Island – 21 in seas close to island in May 1991. V.N. Serventy saw a flock of 200-300 in November 1950 (Serventy 1952).

New Year Island – two in February 1986.

Ford Island – two in February 1986.

Six Mile Island – fifty in January 1985, 140 in October 1985. About 1000 breeding pairs in February 1986. Chicks ranged from newly hatched up to black-capped speckled birds almost ready to fly. L. Spurr (*pers comm.*) told Johnstone and Smith that adults were incubating on 8 January. The breeding site of these Crested Terns was mapped by Johnstone and Smith (1987) but the relevant details were inadvertently omitted from the text.

A total of 14 were seen while travelling between Six Mile Island and Point Malcolm in May 1991.

Spindle Island – one in May 1991.

Fairy Tern *Sterna nereis*

Six Mile Island – about 45

breeding pairs in two areas of *Carpobrotus* on 25 January 1985. Four nests had one egg, seven had two and nine fresh empty scrapes were counted. Two adults were flying above and around the island on 30 October 1985. Eight adults and one young still begging for food in February 1986.

Several birds seen between Six Mile Island and Point Malcolm on 7 May need confirmation as Storr (1987) considers that birds in winter could be migrating Little Terns *Sterna sinensis*.

Rock Parrot *Neophema petrophila*

Anvil Island – twenty-eight, mostly in pairs sheltering under granite boulders in January 1985, six in *Nitraria* in February 1986, six feeding on *Enchylaena* and three feeding on male flowers of *Atriplex cinerea* and *Olearia axillaris* flower buds in May 1991.

Daw Island – three perched on rocks among *Carpobrotus* in February 1986, a total of 34 in May 1991. V.N. Serventy saw five in November 1950 (Serventy 1952).

New Year Island – ten feeding on *Calocephalus brownii* in May 1991. D.L. Serventy saw 100 in June 1948 (Serventy 1952).

Six Mile Island – two in October 1985, 44 in February 1986 and two in May 1991.

Barn Owl *Tyto alba*

Daw Island – one flushed from a granite ledge at the east end of

island in February 1986. Pellets around the rock contained the remains of *Rattus fuscipes*. Pellets, presumably from this species, in cavern on northern peak in May 1991 also contained bones of two *Rattus fuscipes*.

Welcome Swallow *Hirundo neoxena*

Anvil Island – four in April 1986, six feeding over island in May 1991.

Daw Island – 10–15 in February 1986, 18 feeding over island and 40 sheltering among rocks in May 1991. V.N. Serventy (Serventy 1952) recorded Welcome Swallows in November 1950.

New Year Island – two feeding above splashing waves in May 1991.

Six Mile Island – two in January 1985, three in October 1985 and nine feeding over island in May 1991.

Red Wattlebird *Anthochaera carunculata*

Anvil Island – one among rocks in May 1991.

Grey-breasted White-eye *Zosterops lateralis*

Anvil Island – heard in *Nitraria* in February, 14 feeding on *Nitraria* berries and two feeding among *Disphyma* in May 1991.

Daw Island – several groups in dense scrub in February, a total of eight in *Nitraria* and four in *Paraserianthes lophantha* in May 1991. Recorded by V. N. Serventy (Serventy 1952).

New Year Island – 20 in *Rhagodia* in May 1991.

Australian Raven *Corvus coronoides*

Daw Island – six in May 1991 and six in November 1950 (Serventy 1952).

Australian Pipit *Anthus australis*

Anvil Island – two among 15 cm tall *Atriplex cinerea* and two among *Disphyma* in May 1991.

Daw Island – 10–20 mostly on *Carpobrotus* in February 1986, five among *Disphyma* and on rocks in splash zone in May 1991. V.N. Serventy saw three in November 1950 (Serventy 1952).

New Year Island – five in May 1991.

MAMMALS

Southern Brown Bandicoot *Isoodon obesulus*

Daw Island – There are five specimens in the Western Australian Museum from *Daw Island* (M4011, 3229–30, 22305, 25556). We saw several animals and collected M25556 in February 1986. At least five animals were active during the daytime in May 1991. We gained the impression that this species was quite common. Several of their disused grass nests were found in both February 1986 and May 1991.

Bush Rat *Rattus fuscipes*

Daw Island – one specimen in the Western Australian Museum (M24595). The Death Adder

collected in February 1986 had one in its gut. Several skulls were collected from pellets of Barn Owls in May 1991.

Australian Sea-lion *Neophoca cinerea*

Anvil Island – three males with bright mantles, one male without a mantle, 20 females and several yearlings in February 1986. At least 10 animals in May 1991.

Daw Island – V.N. Serventy (Serventy 1952) counted 65 on the beach in November 1950. Smith and Johnstone saw 20 on the same beach in February 1986.

Ford Island – two in February 1986.

New Year Island – four in May 1991.

Six Mile Island – 26 adults (including 6 males and 20 females) 12 juveniles and one pup in October, at least 15 animals in May.

Spindle Island – 119 in May 1991.

New Zealand Fur-seal *Arctocephalus forsteri*

Anvil Island – breeding colony present in May 1991.

Daw Island – one in February 1986. In May a colony of about 50, of which about half were pups, occupied the rocks in the channel between *Daw* and *New Year* islands. Another colony of 26 was at the northern end of the island.

REPTILES

Specimens collected are in the

Western Australian Museum. For a summary of the reptiles of the entire Archipelago of the Recherche see Smith and Johnstone (1996).

Gekkonidae (Geckos)

Marbled Gecko *Christinus marmoratus*

Daw Island – five under granite slabs in May 1991. One collected on Daw I. by Department of Fisheries and Wildlife personnel April 1982. Two collected by A.J. Hopkins in June 1988.

Barking Gecko

Underwoodisaurus milii

Anvil Island – One sloughed skin found under granite in February 1986.

Daw Island – two under granite in May 1991.

New Year Island – adult collected from under granite photographed in May 1991. Not previously recorded for New Year Island.

Agamidae (Dragon Lizards)

Rock Dragon *Ctenophorus ornatus*

Daw Island – common on granite. Also recorded here previously (Glauert 1954).

Scincidae (Skinks)

Red-legged Skink *Ctenotus labillardieri*

Anvil Island – several seen under granite in February 1986, April 1986 and May 1991.

South-western Crevice Skink
Egernia napoleonis

Daw Island – common under granite in May 1991, also seen in February 1986.

New Year Island – common under granite in May 1990, also seen in February 1986.

Anvil Island – common among granite in February 1986, April 1986 and May 1991.

Six Mile Island – the only lizard on the island, abundant.

Egernia multiscutata bos

Anvil Island – One dug from a Little Shearwater burrow in February 1986 and one seen in burrow in May 1991.

Hemierngis peronii

Anvil Island – Three in loose soil under granite.

Menetia greyii

Daw Island – two individuals, possibly this species, seen in May 1991 by Dell.

New Year Island – one individual, possibly this species, seen in February 1986 by Smith.

If these observations are confirmed they would be the first records of this species on any islands of the Recherche Archipelago (Smith and Johnstone 1996).

Elapidae (Front-fanged snakes)

Death Adder *Acanthophis antarcticus*

Daw Island – several seen in February 1986, two seen in May 1991. The one specimen collected in February had a *Rattus fuscipes* in its gut.

Crowned Snake *Elapognathus coronatus*

Daw Island – One collected by Fisheries and Wildlife personnel April 1982. One basking on granite in May 1991. Also recorded previously (Glauert 1954).

DISCUSSION

The 45 species of birds recorded from the Eastern Group of the Archipelago of the Recherche can be divided into two groups; those dependent on a marine or littoral environment and land birds which occur on the nearby mainland and visit, or have become resident on the Archipelago's islands. The former group (74 % of the avifauna) can be divided into four categories as listed below.

The first of these categories comprises certain pelagic or oceanic petrels and shearwaters which visit or breed in this, or other parts, of the Archipelago. Breeding species include the Great-winged Petrel (*Pterodroma macroptera*), Fleshy-footed Shearwater (*Puffinis carneipes*), Short-tailed Shearwater (*Puffinus tenuirostris*), Little Shearwater (*Puffinus assimilis*), and White-faced Storm Petrel (*Oceanites marinus*).

The Cape Petrel (*Daption capense*) is a non-breeding visitor.

The second category includes the following subantarctic and arctic visitors: Black-browed Albatross (*Diomedea melanophris*), Yellow-

nosed Albatross (*D. chlororhynchos*), Shy Albatross (*D. cauta*), Wilson's Storm Petrel (*Oceanites oceanicus*), Arctic Skua (*Stercorarius parasiticus*), and Brown Skua (*Catharacta antarctica*) and Australasian Gannet (*Sula serrator*).

The third category comprises the following Palaearctic migrants: Grey-tailed Tattler (*Tringa brevipes*), Ruddy Turnstone (*Arenaria interpres*), Common Sandpiper (*Tringa hypoleucos*), Little Stint (*Calidris minuta*), Grey Plover (*Pluvialis squatarola*), Red-necked Stint (*Calidris ruficollis*) and Greater Sand Plover (*Charadrius leschenaultii*).

The fourth category includes the following resident larolimnocolae, shags, raptors, ducks, and penguins, most of which are dependent on the sea for food and the land for breeding (those asterisked breed in the Eastern Group of the Archipelago): Little Penguin (*Eudyptula minor*)*, Black-faced Cormorant (*Phalacrocorax fuscescens*)*, White-faced Heron (*Ardea novaehollandiae*), Eastern Reef Heron (*Ardea sacra*), Pacific Black Duck (*Anas superciliosa*), Grey Teal (*A. gracilis*), Sooty Oystercatcher (*Haematopus fuliginosus*)*, Red-capped Plover (*Charadrius ruficapillus*), Silver Gull (*Larus novaehollandiae*)*, Pacific Gull (*L. pacificus*)*, Caspian Tern (*Sterna caspia*)*, Crested Tern (*S. bergii*)*, Fairy Tern (*S. nereis*)*, and White-breasted Sea Eagle (*Haliaeetus leucogaster*)*.

The second group, the land birds,

are very poorly represented with only 12 species being recorded. Of these only the Cape Barren Goose (*Cereopsis novaehollandiae grisea*) has been found breeding on the islands, although it is most likely that the Rock Parrot (*Neophema petrophila*), Barn Owl (*Tyto alba*), Welcome Swallow (*Hirundo neoxena*), Australian Pipit (*Anthus australis*), and Grey breasted White-eye (*Zosterops lateralis*) breed here also. The Kestrel (*Falco cenchroides*), Buff banded Rail (*Gallirallus philippensis*), and Spotless Crake (*Porzana tabuensis*) possibly breed here. It is unlikely that the Red Wattlebird (*Anthochaera carunculata*) or the Australian Raven (*Corvus coronoides*) breed here. The current status of the Brown Quail (*Coturnix ypsilophora*) on Daw Island remains uncertain.

The subspecies of the Cape Barren Goose (*Cereopsis novaehollandiae grisea*) is the only bird endemic to the Archipelago of the Recherche. As a result of data obtained in May 1991 this subspecies was subsequently included in Schedule 1 of the Wildlife Conservation Act as "Fauna Which is Rare or Likely to Become Extinct".

Of the 45 species of bird recorded from the Eastern Group, only two, the Buff-banded Rail (*Gallirallus philippensis*) and Spotless Crake (*Porzana tabuensis*) appear restricted to the eastern end (but not necessarily the Eastern Group) of the Archipelago, the Buff-banded Rail being only recorded from

Daw and Anvil Islands in the Eastern Group and the Spotless Crake from Daw as well as inshore islands (Wickham, Skink, Ben, and Bellinger) further west.

The Southern Brown Bandicoot (*Isodon obesulus*) from Daw I. represents only the second insular population off the Western Australian coast. The only other island population being on Bald Island near Albany. Accordingly the Daw Island population is important in a conservation context as the species has declined over much of its range on the mainland.

Ten species of reptile are now known from the islands of the Eastern Group compared to the total of 21 species from the whole archipelago. This low number of species is not surprising considering the small size of most of these eastern islands and the fact that little vegetation and soil is present on most (Keighery 1995). The most abundant populations of some species are practically restricted to the crevices in the exposed granite.

Nine of the species of reptile from the Eastern Group are found in other parts of the Archipelago (Smith and Johnstone 1996) and most are common on the opposite mainland. The only exception is *Menetia greyii* on Daw and New Year Islands, the records of which require confirmation.

ACKNOWLEDGEMENTS

We are grateful to Mr L. Spurr of

Israelite Bay for his hospitality and for taking Smith and Johnstone to islands in the Eastern Group and to Mr N. Kolichis and Mr and Mrs W.H. Butler whose grants to the Western Australian Museum helped defray the costs of the field work by Smith and Johnstone. Australian Geographic organised the May trip and covered all costs some of which were sponsored by BP Australia. The McKenzie family of Esperance provided the boat and crew for the May expedition. Brad Maryan is thanked for access to his reptile data and Nick Gales for his data on marine mammals from the May trip.

REFERENCES

FAIRBRIDGE, R.W. and SERVENTY, V.N. 1954. The Archipelago of the Recherche. 1b. Physiography. *Australian Geographical Society Report No. 1*. 9-28.

GLAUERT, L. 1954. The Archipelago of the Recherche 5. Reptiles and Frogs. *Australian Geographical Society Report No. 1*: 29-35.

KEIGHERY, G. 1995. Additions to the Flora of the Recherche Archipelago. *Western Australian Naturalist* 20: 133-138.

JOHNSTONE, R.E. and SMITH, L.A. 1987. Seabird Islands No. 178. Six Mile Island, Archipelago of the Recherche, Western Australia. *Corella* 11: 93-94.

SERVENTY, D.L. and WHITTELL, H.M. 1951. *Birds of Western Australia*. Second Edition. Paterson Brokensha, Perth.

SERVENTY, V.N. 1952. The Archipelago of the Recherche. 2. Birds. *Australian Geographical Society Report No. 1*: 4-23.

SERVENTY, V.N. 1953. The Archipelago of the Recherche. 4. Mammals. *Australian Geographical Society Report No. 1*: 40-49.

SMITH, L.A. and JOHNSTONE, R.E. 1996. Biogeography of the Herpetofauna of the Archipelago of the Recherche, Western Australia. *Journal of the Royal Society of Western Australia* 79: 165-173.

STORR, G.M. 1980. The Western subspecies of the Cape Barren Goose *Ceriopsis novaehollandiae grisea* (Vieillot). *Western Australian Naturalist* 14: 202-203.

STORR G.M. 1987. Birds of the Eucla Division of Western Australia. *Records of the Western Australian Museum Suppl. No. 27*.

WILLIS, J.H. 1953. The Archipelago of the Recherche. 3a. Land Flora. *Australian Geographical Society Report No. 1*: 3-35.